

AMENDMENTS TO THE CLAIMS:

Please replace the claims with the claims provided in the listing below wherein status, amendments, additions and cancellations are indicated.

1. (Currently Amended) A motor with an aerodynamic bearing comprising:

a base;

a shaft projecting upwardly from said base at a point adjacent a central portion of said base;

a sleeve on an outer circumferential part of said shaft;

a gas-containing volume between said sleeve and said outer circumferential part of said shaft so that only an ~~defining an~~ aerodynamic bearing is disposed along a length of said shaft;

a rotor on said outer circumferential part of said sleeve;

a hub disposed against an upper portion of said rotor and said sleeve;

a plurality of permanent magnets on said rotor; and

a coil on said base and surrounding an outer circumferential part of said rotor

2. (Currently Amended) A motor with an aerodynamic bearing comprising:

a base;

a shaft projecting upwardly from said base at a point adjacent a central portion of said base;

17/01/07 02:14:14 (11/14/07) .wpl

Docket No. F-7987

Ser. No. 10/673,780

a sleeve on an outer circumferential part of said shaft, separated from said shaft only by a gas volume;

a coil disposed on said base, said coil surrounding an outer circumferential part of said sleeve, said coil being disposed axially collinear with said sleeve;

a rotor on an outer circumferential part of said coil;

a plurality of permanent magnets on said rotor; and

a hub supporting an upper portion of said sleeve and said rotor, said hub surrounding ~~covering~~ an upper portion of the shaft and ~~such that the coil locates around~~ an outer circumferential part of said rotor.

3. (Currently Amended) A motor with an aerodynamic bearing comprising:

a base;

a sleeve, projecting upwardly and downwardly from said base at a point adjacent a central portion of said base, a portion of said sleeve being surrounded by said base;

a shaft positioned in said sleeve;

a gas volume, between said shaft and said sleeve, defining an aerodynamic bearing;

a rotor on an outer circumferential part of said sleeve;

a plurality of permanent magnets on said rotor; and

Docket No. F-7987

Ser. No. 10/673,780

a coil ~~on the base~~ and surrounding an outer circumferential part of said rotor.

4. (Previously Presented) The motor with an aerodynamic bearing according to claim 1, further comprising:

a hub, supporting said sleeve and said rotor and covering an upper portion of said shaft; and

a back yoke attached to said hub, such that said back yoke is positioned around an outer circumferential part of said coil.

5. (Previously Presented) The motor with an aerodynamic bearing according to claim 4, further comprising:

a color wheel attached to one of said hub and said back yoke, projecting outward along a direction of said shaft core and a right angle to said shaft; and wherein:

said coil is a coreless waveform continuation coil;

said back yoke is located around an outer circumferential part of said coil; and

said hub supports said sleeve, said rotor and said back yoke

Docket No. F-7987

Ser. No. 10/673,780

6. (Currently Amended) A motor with an aerodynamic bearing comprising:

a base;

a shaft projecting upwardly from said base at a point adjacent a central portion of said base;

a sleeve on an outer circumferential part of said shaft;

a gas-containing volume between said sleeve and said outer circumferential part of said shaft so that only an ~~defining~~ an aerodynamic bearing is disposed along a length of said shaft;

a rotor surrounding an outer circumferential part of said sleeve;

at least one permanent magnet on said rotor;

a coil on said base and surrounding an outer circumferential part of said rotor;

a back yoke surrounding ~~attached to~~ a circumferential part of said coil;

a hub, supporting said back yoke, said sleeve, and said rotor, and covering an upper part of said shaft;

~~a color wheel attached to said back yoke;~~

a holder connected to said back hub and projecting outwardly along a direction of a core of said shaft and at a right angle to said shaft;

a color wheel connected to said holder

a first magnet attached to a concavity of an upper part of said hub, said first magnet being a thrust magnet; and

Docket No. F-7987

Ser. No. 10/673,780

a second magnet attached to an upper portion of said shaft, which acts as a brake for said first magnet.

7. (Currently Amended) The motor with an aerodynamic bearing according to claim 5, wherein said coil is a coreless waveform continuation coil.

8. (Previously Presented) The motor with an aerodynamic bearing according to claim 6, wherein said first and second magnets are thrust magnets.

9. (Previously Presented) The motor with an aerodynamic bearing according to claim 6, wherein said at least one permanent magnet on said rotor surrounding said outer circumferential part of said sleeve and at said outer circumferential part of said shaft, said gas-containing volume, and said coil are positioned in such a way relative to one another so as to dissipate excess generated torque and prevent damage to said shaft and said sleeve.

10. (Currently Amended) A motor with an aerodynamic bearing comprising:

a base;

a shaft projecting upwardly from said base at a point adjacent a central portion of said base;

a sleeve on an outer circumferential part of said shaft;

Docket No. F-7987

Ser. No. 10/673,780

a gas-containing volume between said sleeve and said outer circumferential part of said shaft ~~so that only an, defining an aerodynamic bearing~~
is disposed along a length of said shaft;

a rotor surrounding an outer circumferential part of said sleeve;

at least one permanent magnet on said rotor;

a coil on said base and surrounding an outer circumferential part of said rotor;

a back yoke surrounding ~~attached to~~ a circumferential part of said coil;

a hub, supporting said back yoke, said sleeve, and said rotor, and covering an outer circumferential part of said back yoke;

~~a color wheel attached to an outer circumferential part of said sleeve;~~

a holder connected to said hub and projecting outwardly along a direction of a core of said shaft and at a right angle to said shaft;

a color wheel connected to said holder

a first magnet attached to a concavity of an upper part of said hub, said first magnet being a thrust magnet; and

a second magnet attached to an upper portion of said shaft, which acts as a brake for said first magnet.

11. (Cancelled)

Docket No. F-7987

Ser. No. 10/673,780

12. (Currently Amended) A motor with an aerodynamic bearing comprising:

a base;

a shaft projecting upwardly from said base at a point adjacent a central portion of said base;

a sleeve on an outer circumferential part of said shaft;

a gas-containing volume between said sleeve and said outer circumferential part of said shaft so that only an, defining an aerodynamic bearing is disposed along a length of said shaft;

a rotor surrounding an outer circumferential part of said sleeve;

at least one permanent magnet on said rotor;

a coil on said base and surrounding an outer circumferential part of said rotor

a back yoke attached to said base;

a hub, supporting ~~said back yoke~~, said sleeve, and said rotor, and covering an outer circumferential part of said back yoke;

a color wheel attached to an outer circumferential part of said sleeve;

a holder projecting outwardly along a direction of a core of said shaft and at a right angle to said shaft;

a first magnet attached to a concavity of an upper part of said hub, said first magnet being a thrust magnet; and

a second magnet attached to an upper portion of said shaft, which acts as

Docket No. F-7987

Ser. No. 10/673,780

a brake for said first magnet.

13. (Currently Amended) A motor with an aerodynamic bearing comprising:

a base;

a shaft projecting upwardly from said base at a point adjacent a central portion of said base;

a sleeve on an outer circumferential part of said shaft;

a gas-containing volume between said sleeve and said outer circumferential part of said shaft so that only an ~~defining an~~ aerodynamic bearing is disposed along a length of said shaft;

a rotor surrounding an outer circumferential part of said sleeve;

at least one permanent magnet on said rotor;

a coil on said base and surrounding an outer circumferential part of said rotor;

a back yoke surrounding ~~attached to~~ an outer circumferential part of said coil;

a hub, supporting ~~said back yoke,~~ said sleeve, and said rotor, and covering an outer circumferential part of said back yoke;

a holder projecting outwardly along a direction of a core of said shaft and at right angle to said shaft;

a first magnet attached to a concavity of an upper part of said hub, said

Docket No. F-7987

Ser. No. 10/673,780

first magnet being a thrust magnet; and

a second magnet attached to an upper portion of said shaft, which acts as a brake for said first magnet.

14. (Currently Amended) A motor with an aerodynamic bearing comprising:

a base;

a shaft projecting upwardly from said base at a point adjacent a central portion of said base;

a sleeve on an outer circumferential part of said shaft;

a gas-containing volume between said sleeve and said outer circumferential part of said shaft so that only an ~~defining an~~ aerodynamic bearing is disposed along a length of said shaft;

a rotor surrounding an outer circumferential part of said sleeve;

at least one permanent magnet on said rotor;

a coil on said base and surrounding an outer circumferential part of said rotor;

~~a back yoke attached to an outer circumferential part of said coil;~~

a hub, supporting ~~said back yoke,~~ said sleeve, and said rotor, and covering an outer circumferential part of said coil;

a color wheel attached to an outer circumferential part of said sleeve;

a holder projecting outwardly along a direction of a core of said shaft

Docket No. F-7987

Ser. No. 10/673,780

and a right angle to said shaft;

a first magnet attached to a concavity of an upper part of said hub, said first magnet being a thrust magnet; and

a second magnet attached to an upper portion of said shaft, which acts as a brake for said first magnet.

15. (Currently Amended) A motor with an aerodynamic bearing comprising:

a base;

a shaft projecting upwardly from said base at a point adjacent a central portion of said base;

a sleeve on an outer circumferential part of said shaft;

a gas-containing volume between said sleeve and said outer circumferential part of said shaft, defining an aerodynamic bearing;

a coil on said base;

a rotor surrounding an outer circumferential part of said coil;

at least one permanent magnet on said rotor;

a back yoke attached to an outer circumferential part of said sleeve;

a hub, supporting said back yoke, said sleeve, and said rotor, ~~and covering an outer circumferential part of said back yoke;~~

~~a color wheel attached to an outer circumferential part of said sleeve;~~

a holder connected to said hub and projecting outwardly along a direction

Docket No. F-7987

Ser. No. 10/673,780

of a core of said shaft and at a right angle to said shaft;

a color wheel attached to said holder;

a first magnet attached to a concavity of an upper part of said hub; and

a second magnet attached to an upper portion of said shaft, which acts as a brake for said first magnet.

16. (Currently Amended) A motor with an aerodynamic bearing comprising:

a base;

a sleeve;

a sleeve attached to and projecting upward from said base, projecting upwardly and downwardly from said base at a point adjacent a central portion of said base, a portion of said sleeve being surrounded by said base;

a shaft projecting into said sleeve;

a gas-containing volume between said sleeve and said outer circumferential part of said shaft, defining an aerodynamic bearing;

a rotor surrounding an outer circumferential part of said sleeve;

at least one permanent magnet on said rotor;

a coil on said base and surrounding an outer circumferential part of said rotor;

a back yoke surrounding ~~attached to~~ a circumferential part of said coil;

a hub, supporting said ~~back~~ shaft, said rotor and said back yoke, and

Docket No. F-7987

Ser. No. 10/673,780

covering an outer circumferential part of said sleeve;

a color wheel attached to an outer circumferential part of said sleeve;

a holder projecting outwardly along a direction of a core of said shaft
and a right angle to said shaft;

a first magnet attached to a concavity of an upper part of said hub, said
first magnet being a thrust magnet; and

a second magnet attached to an upper portion of said shaft, which acts as
a brake for said first magnet.

17. (Currently Amended) A motor with an aerodynamic bearing comprising:

a base;

~~a sleeve attached to and projecting upward from said base, projecting~~
upwardly and downwardly from said base at a point adjacent a central portion of
said base, a portion of said sleeve being surrounded by said base;

a shaft projecting into said sleeve;

a gas-containing volume between said sleeve and said outer
circumferential part of said shaft, defining an aerodynamic bearing;

a coil on said base;

a rotor surrounding an outer circumferential part of said coil;

at least one permanent magnet on said rotor;

a back yoke attached to an outer circumferential part of said sleeve;

Docket No. F-7987

Ser. No. 10/673,780

a hub, supporting said back shaft, said rotor and said back yoke, and covering an outer circumferential part of said sleeve;

a color wheel attached to an outer circumferential part of said sleeve;

a holder projecting outwardly along a direction of a core of said shaft and a right angle to said shaft;

a first magnet attached to a concavity of an upper part of said hub, said first magnet being a thrust magnet; and

a second magnet attached to an upper portion of said shaft, which acts as a brake for said first magnet.

18.(Currently Amended) A motor with an aerodynamic bearing comprising:

a base;

a shaft projecting upwardly from said base at a point adjacent a central portion of said base;

a sleeve on an outer circumferential part of said shaft;

a gas-containing volume between said sleeve and said outer circumferential part of said shaft, defining an aerodynamic bearing;

a rotor surrounding an outer circumferential part of said sleeve;

~~at least one permanent magnet on said rotor,~~

~~a coil on said base and~~ surrounding an outer circumferential part of said rotor.

Docket No. F-7987

Ser. No. 10/673,780

said coil extending above and below said rotor; and

a thrust washer at a lower end portion of said sleeve[[]]

~~— a color wheel attached to an outer circumferential part of said sleeve;~~

~~— a holder projecting outwardly along a direction of a core of said shaft and a right angle to said shaft;~~

~~— a first magnet attached to a concavity of an upper part of said hub; and~~

~~— a second magnet attached to an upper portion of said shaft, which acts as a brake for said first magnet.~~